

Attachment 9: Scope of work on Somer island - compensatory measures – an excerpt from the technical concept

List of drawings

- | | |
|----------------------|-------------|
| 1. Site plan | Scale 1:500 |
| 2. A-A cross-section | Scale 1:100 |

1. Description of the existing condition

1.1. Location

The investment in question will be located within the boundaries of registered plots no. 2/2 and 2/3, locality Stare Miasto, the town of Kostrzyn nad Odrą, Gorzów district, Lubuskie province. Its scope includes Somer island and a fragment of the Postomia riverbed.

1.2. Existing land development

The island is an undeveloped area covered with vegetation, i.e. trees, shrubs, and aquatic plants (reeds). The slopes of the island are sharply inclined and need strengthening. In order to implement the investment, it will be necessary to cut down the reeds and trees growing on the island.

2. Planned land development

2.1. Revetments

Plans for the Somer island include creating a habitat for birds as part of compensatory measures imposed by the environmental permit. Revetments all around the islands are designed to protect the banks.

The revetment construction process is planned to consist of the following steps:

- creation of new surface and underwater slopes with a max. inclination of 1: 3 from native soil;
- laying a layer of separation geotextile on the slopes and fixing it to the ground with pegs or pins;
- placing riprap of crushed hydro-technical stone, layer thickness min. 0.3 m;

The slope will be secured against slipping by a toe with a minimum width of 3 m; the toes should be placed on the existing bottom.

A crest with a width of min. 2 m will constitute the top edge of the revetment; the crest elevation should be adapted to the existing terrain elevation.

Basic technical parameters of revetments:

- revetment length: ~570 m
- slope inclination: max 1:3
- min riprap thickness: 30 cm
- toe width: min 3 m
- crest width: min 2 m

- revetment crest elevation: same as existing terrain
- revetment toe elevation: same as existing terrain

2.2. Island structures

Restoration of habitat on Somer island is planned as part of compensatory measures imposed by the environmental permit. The area of the designed habitat is about 9700 m², which accounts for about 87% of the total area of the island.

The following measures are planned to restore the habitat:

- Removing vegetation from the island, including trees and reeds
- Removing the top layer of humus in order to prevent the restoration of vegetation on the island
- Laying a layer of geotextile on the surface from which humus has been removed in order to prevent the restoration of vegetation on the island
- Spreading riprap in the place of removed humus in layers of crushed stone, one layer with a thickness of min. 15 cm
- Creating the surface layer of the habitat from river sand, thickness of the sand layer min. 15 cm
- Placing 5 nesting boxes for kingfishers in the area of the west bank, one every 40 m.

Basic technical parameters of the island structures:

- Developed area: ~9700 m²
- min riprap thickness: min 15 cm
- min thickness of the sand filling: min 15 cm
- nesting boxes for kingfishers: 5 pcs (every 40 m)

Details of the proposed structural solutions are shown in Figures 1 and 2.

Environmental Management Plan

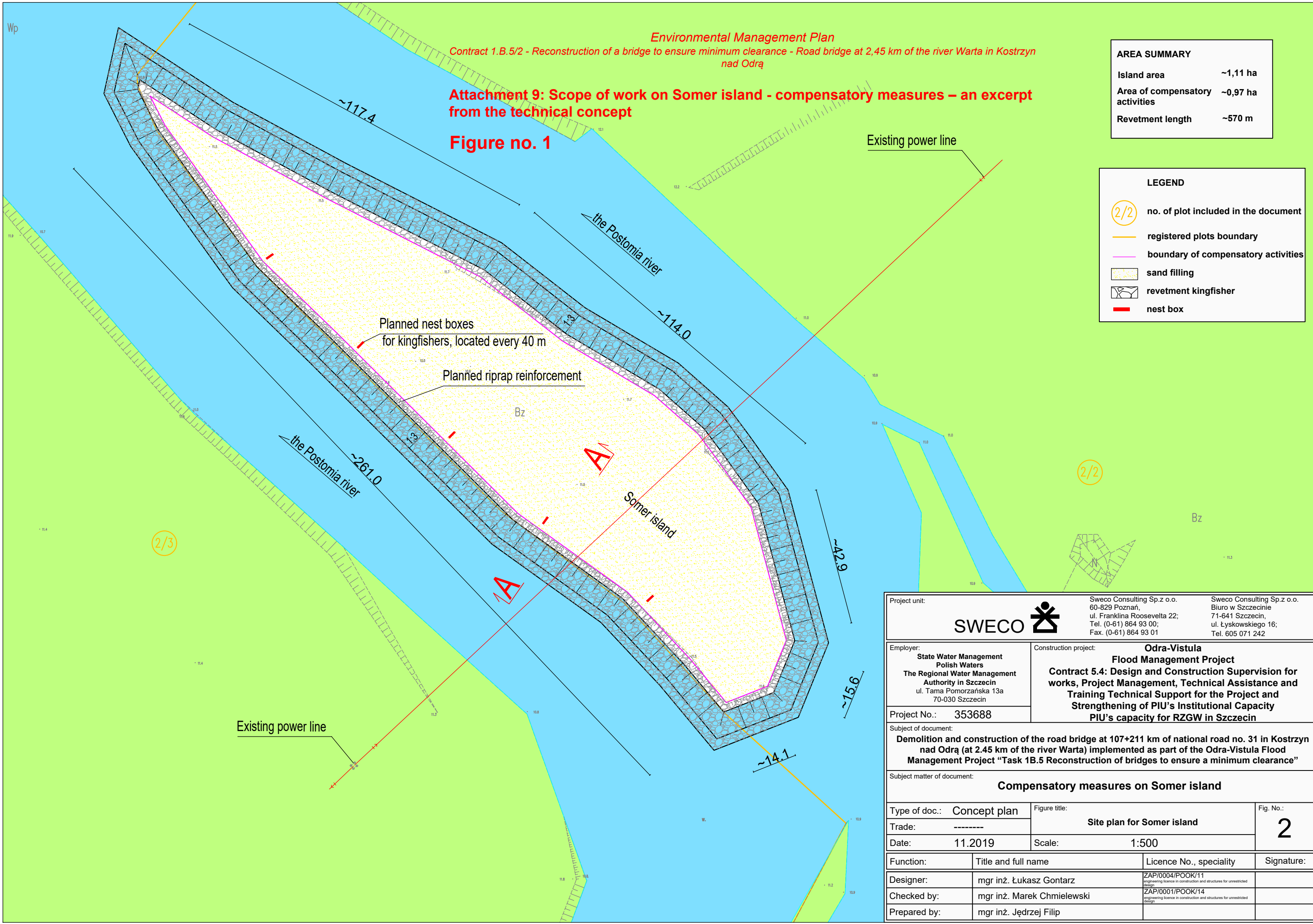
Contract 1.B.5/2 - Reconstruction of a bridge to ensure minimum clearance - Road bridge at 2,45 km of the river Warta in Kostrzyn nad Odrą

Attachment 9: Scope of work on Somer island - compensatory measures – an excerpt from the technical concept

Figure no. 1

AREA SUMMARY	
Island area	~1,11 ha
Area of compensatory activities	~0,97 ha
Revetment length	~570 m

LEGEND	
	no. of plot included in the document
	registered plots boundary
	boundary of compensatory activities
	sand filling
	revetment kingfisher
	nest box



Project unit: SWECO		Sweco Consulting Sp.z o.o. 60-829 Poznań, ul. Franklina Roosevelta 22; Tel. (0-61) 864 93 00; Fax. (0-61) 864 93 01		Sweco Consulting Sp.z o.o. Biuro w Szczecinie 71-641 Szczecin, ul. Łyskowskiego 16; Tel. 605 071 242	
Employer: State Water Management Polish Waters The Regional Water Management Authority in Szczecin ul. Tama Pomorzańska 13a 70-030 Szczecin		Construction project: Odra-Vistula Flood Management Project Contract 5.4: Design and Construction Supervision for works, Project Management, Technical Assistance and Training Technical Support for the Project and Strengthening of PIU's Institutional Capacity PIU's capacity for RZGW in Szczecin			
Project No.: 353688		Subject of document: Demolition and construction of the road bridge at 107+211 km of national road no. 31 in Kostrzyn nad Odrą (at 2.45 km of the river Warta) implemented as part of the Odra-Vistula Flood Management Project "Task 1B.5 Reconstruction of bridges to ensure a minimum clearance"			
Subject matter of document: Compensatory measures on Somer island					
Type of doc.:	Concept plan	Figure title:	Site plan for Somer island		Fig. No.:
Trade:	-----	Scale:	1:500		2
Date:	11.2019				
Function:	Title and full name	Licence No., speciality	Signature:		
Designer:	mgr inż. Łukasz Gontarz	ZAP/0004/POOK/11 <small>engineering licence in construction and structures for unrestricted design</small>			
Checked by:	mgr inż. Marek Chmielewski	ZAP/0001/POOK/14 <small>engineering licence in construction and structures for unrestricted design</small>			
Prepared by:	mgr inż. Jędrzej Filip				

Somer Island
Cross-section A-A
the river Postomia
Scale 1:100

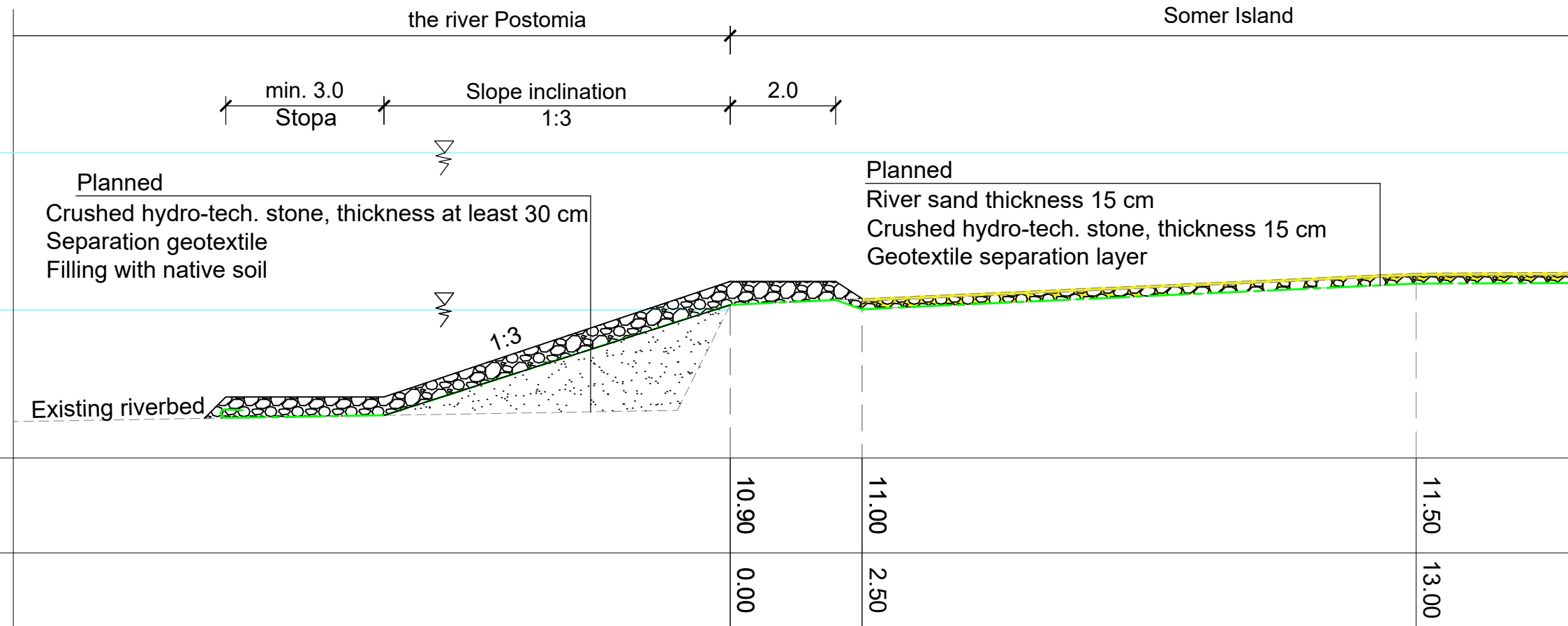
WWŻ [m Kr] 13.80

SSW [m Kr] 10.80

Reference level 8.00 [m Kr]

Terrain elevation [m]
PL-KRON86-NH

Planned distances [m]

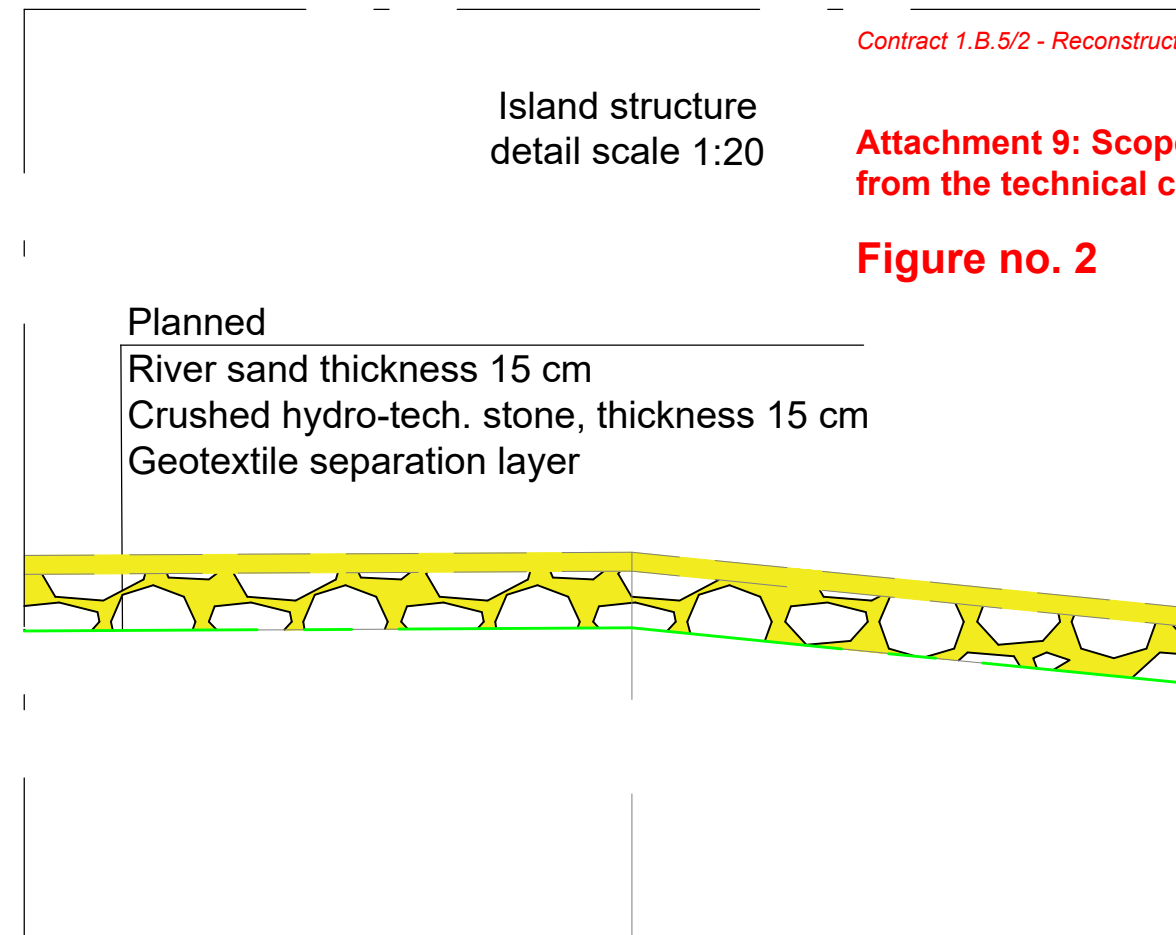



Environmental Management Plan

Contract 1.B.5/2 - Reconstruction of a bridge to ensure minimum clearance - Road bridge at 2,45 km of the river Warta in Kostrzyn nad Odrą

Attachment 9: Scope of work on Somer island - compensatory measures – an excerpt from the technical concept

Figure no. 2



Project unit:		 Sweco Consulting Sp.z o.o. 60-829 Poznań, ul. Franklina Roosevelta 22; Tel. (0-61) 864 93 00; Fax. (0-61) 864 93 01		Sweco Consulting Sp.z o.o. Biuro w Szczecinie 71-641 Szczecin, ul. Łyskowskiego 16; Tel. 605 071 242	
Employer:		Construction project: Odra-Vistula Flood Management Project Contract 5.4: Design and Construction Supervision for works, Project Management, Technical Assistance and Training Technical Support for the Project and Strengthening of PIU's Institutional Capacity PIU's capacity for RZGW in Szczecin			
State Water Management Polish Waters The Regional Water Management Authority in Szczecin ul. Tama Pomorzańska 13a 70-030 Szczecin		Project No.: 353688			
Subject of document: Demolition and construction of the road bridge at 107+211 km of national road no. 31 in Kostrzyn nad Odrą (at 2.45 km of the river Warta) implemented as part of the Odra-Vistula Flood Management Project "Task 1B.5 Reconstruction of bridges to ensure a minimum clearance"					
Subject matter of document: Compensatory measures on Somer island					
Type of doc.:	Concept plan	Figure title:		Fig. No.:	
Trade:	-----	A-A section of Somer island		3	
Date:	11.2019	Scale:		1:100	
Function:	Title and full name	Licence No., specialty	Signature		
Designer:	mgr inż. Łukasz Gontarz	ZAP/0004/POOK/11 engineering licence in construction and structures for unrestricted design			
Checked by:	mgr inż. Marek Chmielewski	ZAP/0001/POOK/14 engineering licence in construction and structures for unrestricted design			
Prepared by:	mgr inż. Jędrzej Filip				